



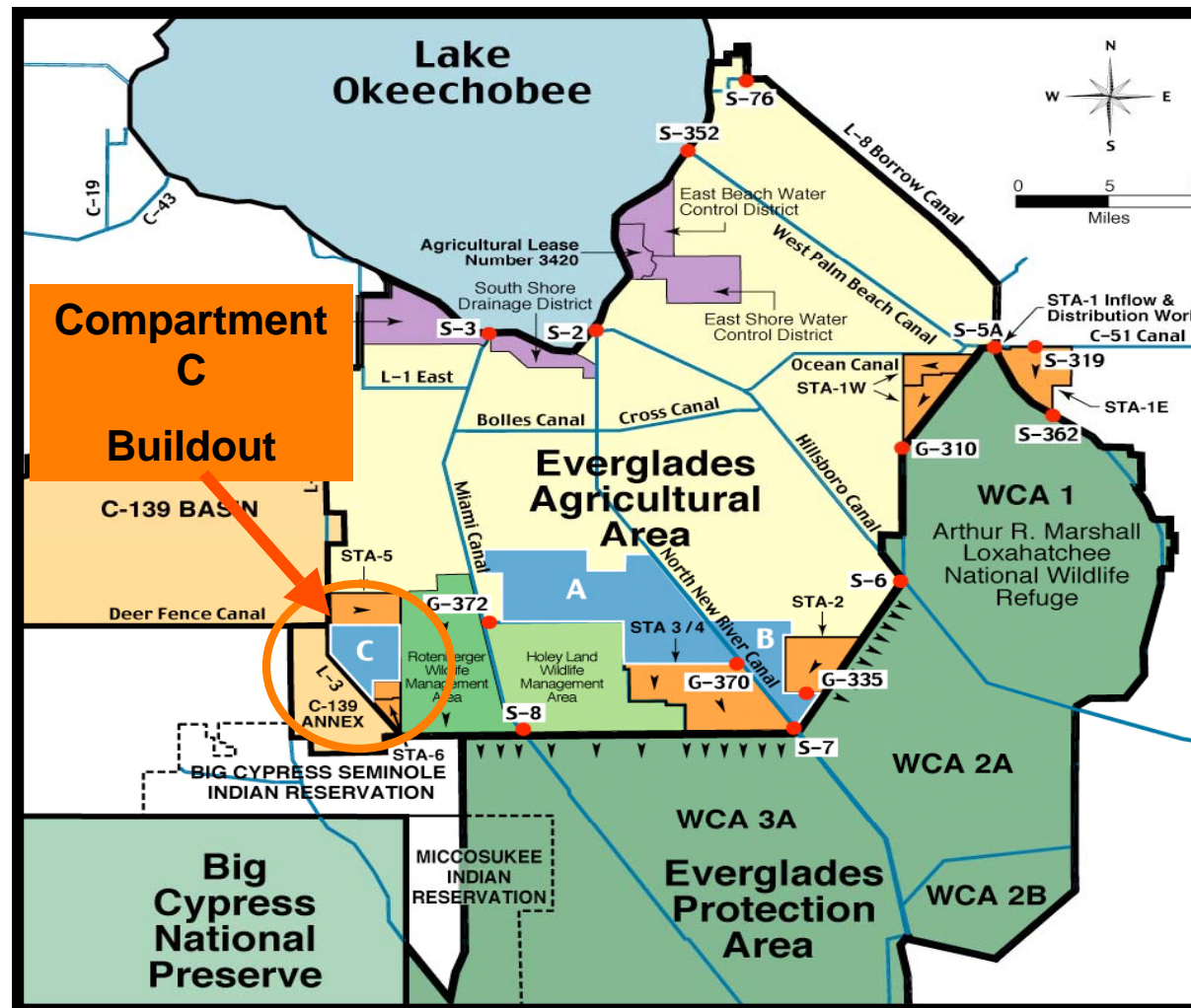
## Compartment C Buildout Stormwater Treatment Area

**STA 5/4-A,B**  
**STA 5/5-A,B**  
**STA 6/4**

**Pre-Solicitation Meeting**  
October 16, 2008

Matthew Alexander, P.E.  
Project Manager

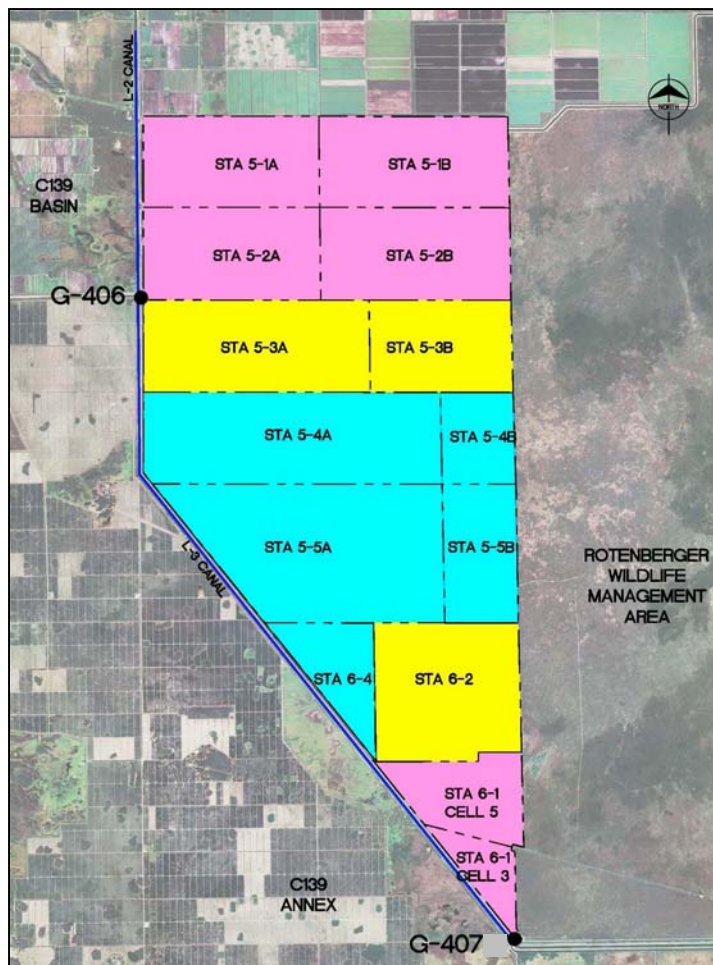
# Compartment C Buildout Stormwater Treatment Area



## Basis and Purpose

- **Component of the Everglades Construction Project and the Everglades Protection Area Tributary Basins Long-Term Plan for Achieving Water Quality Goals (Long-Term Plan)**
- **Included in the 10-Year Strategic Plan and the current Annual Plan**
- **Assist with Redistribution of Flows and Loads in the Stormwater Treatment Area System to achieve optimal performance**

## STA 5/6 Project Area



### Existing Conditions

- STA 5-1: 2,055 Acres
  - STA 5-2: 2,055 Acres
  - STA 6-1: 870 Acres
- (Total Effective Treatment Area = 4,980 Acres)

### Phase 1 – Initial Expansions

- STA 5-3: 1,985 Acres
  - STA 6-2: 1,387 Acres
- (Total Effective Treatment Area = 3,372 Acres)

### Phase 2 – Buildout

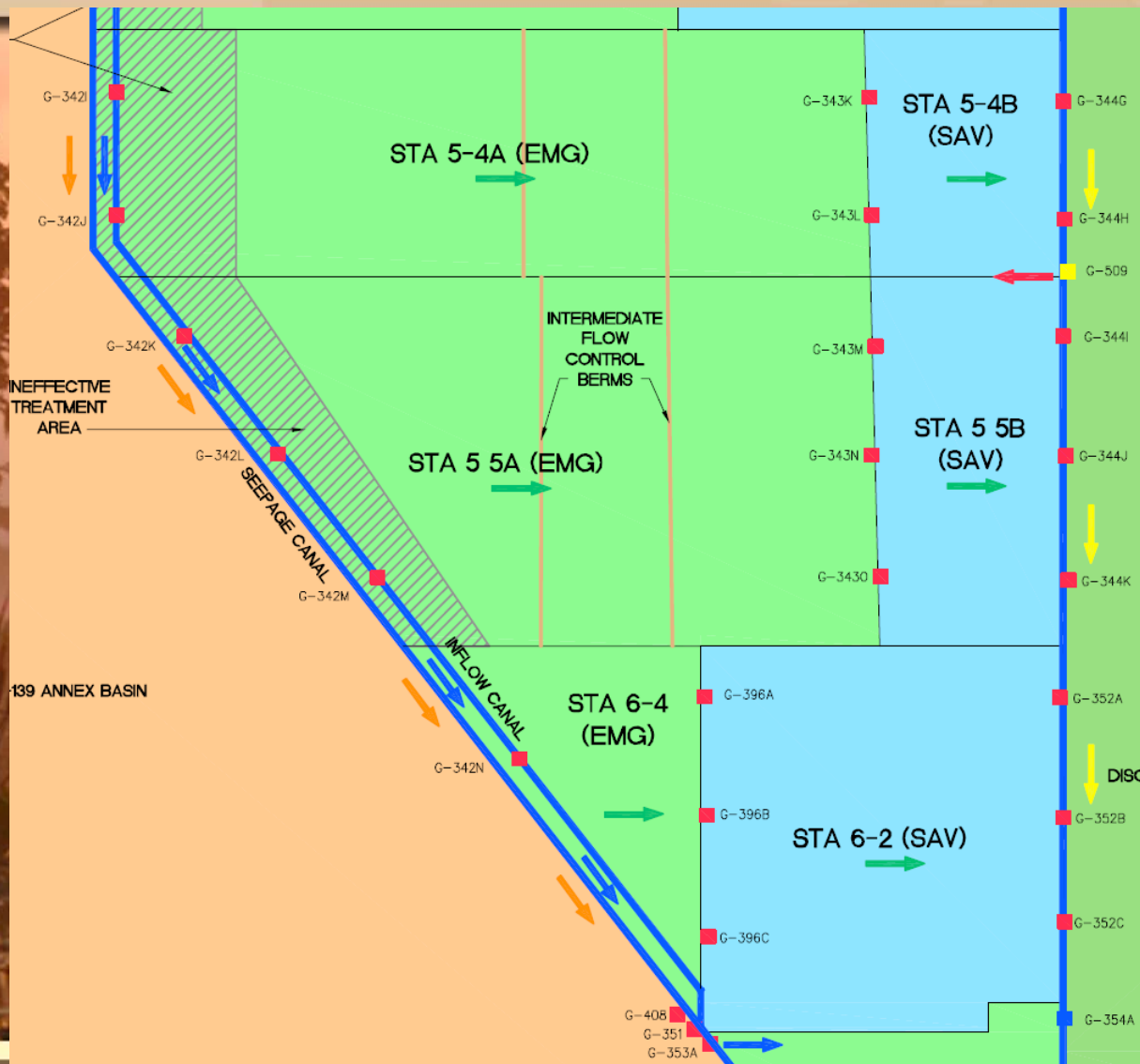
- STA 5-4: 1,790 Acres
  - STA 5-5: 2,537 Acres
  - STA 6-4: 530 Acres
- (Total Effective Treatment Area = 4,850 Acres)

**TOTAL AREA = 13,202 Acres**

# SOUTH FLORIDA WATER MANAGEMENT DISTRICT



## Compartment C Buildout Features



**Site** 6,395 acres

**Levees** 32 miles

**Canals** 27 miles

**Hydration Pump Station (1)** 100 cfs

**18 Inflow/Outflow Control Structures**

**9 Hydration Culverts**

**20 Overflow Weirs**

**Diversion Structures (G-408 & G-411)**

**Modify G-351**

**Underground Power Lines** 18 miles

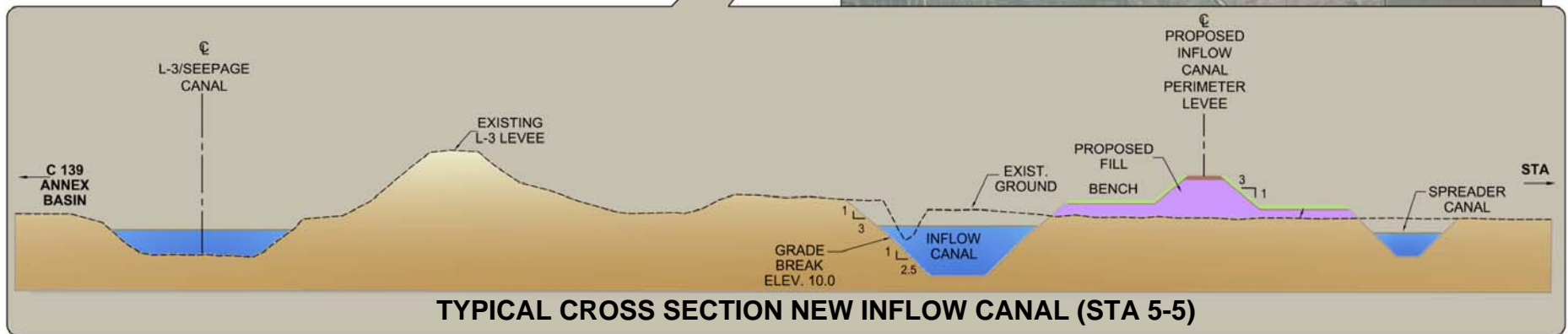
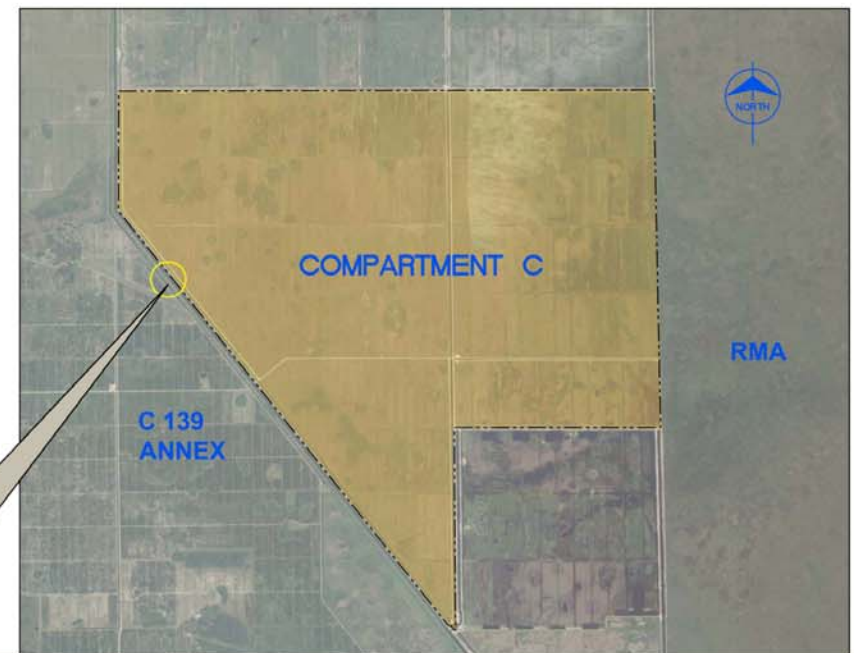
## Demolition of Existing Facilities



- **Pump station and culverts**
- **Removal of farm roads and filling of farm ditches**

## Inflow Canal/Levee Cross Section

- 6 miles of Canal up to existing G-351
- Levee Slopes: 3:1
- Varies from 35 feet to 10 feet bottom width (north to south)
- Existing L-3 to provide Seepage Boundary



## Discharge Levee/Canal Cross Section

- Levee Slopes: 3:1 for all slopes (except 2.5:1 for east face side slope for the east perimeter levee)
- Canal slopes 3:1 above 10' NAVD (estimate LWSE) and 2.5:1 below LWSE
- Keyway trench design for underlying peat areas >2 feet thickness
- 35 feet bottom width for Discharge Canals
- 10 feet bottom width for Spreader/Collections Canals

TYPICAL CROSS SECTION OF DISCHARGE CANAL AND LEVEES (STAs 5-4 and 5-5)

## Canals



## Levees and Berms



## Typical Control Structures (Single-Barrel)

- Pre-cast Box Culverts
- Remotely operated
- Single-Barrel Structures
- Single-Leaf Gates

Structure ID	Location	Height (ft)	Width (ft)	Invert (ft, NAVD)
G-342 G&H	STA 5-3 Inlet	6	10	4.5
G-342 I&J	STA 5-4 Inlet	6	10	4.5
G-342 K,L,&M	STA 5-5 Inlet	6	10	4.5
G-343 K&L	STA 5-4 Intermediate	9	10	0.6
G-343 M,N,&O	STA 5-5 Intermediate	9	10	0.6
G-344 G&H	STA 5-4 Discharge	10	10	-1.4
G-344 I,J,&K	STA 5-5 Discharge	10	10	-1.4

TYPICAL CONTROL STRUCTURE CROSS SECTION

## Water Control Structures



## Water Control Structures



- Slide Gates and Electric Operators
- Control Building
- Handrails and Grating



## Water Control Structures - Electrical



## Culvert Structures



## Typical Control Structure (Double-Barrel)

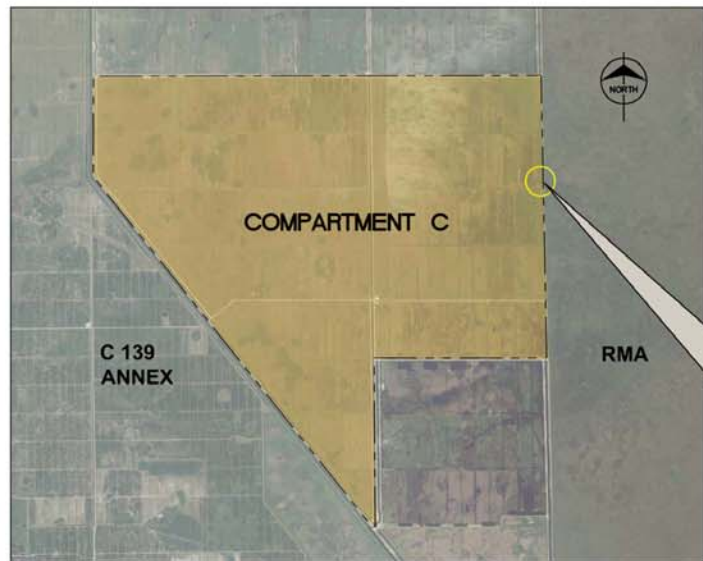
- G-342N, G-408, G-411 and G-351(gates added)
- Pre-cast Box Culverts
- Double-Barrel Structures
- Single-Leaf Gates

Structure ID	Location	Height (ft)	Width (ft)	Invert (ft, NAVD)
G-342 N	Double Barrel	8	11	4.5
G-408	Double Barrel	9	11	1.5
G-411	Double Barrel	8	11	-1.4
G-351	Double Barrel	9	10	3.6

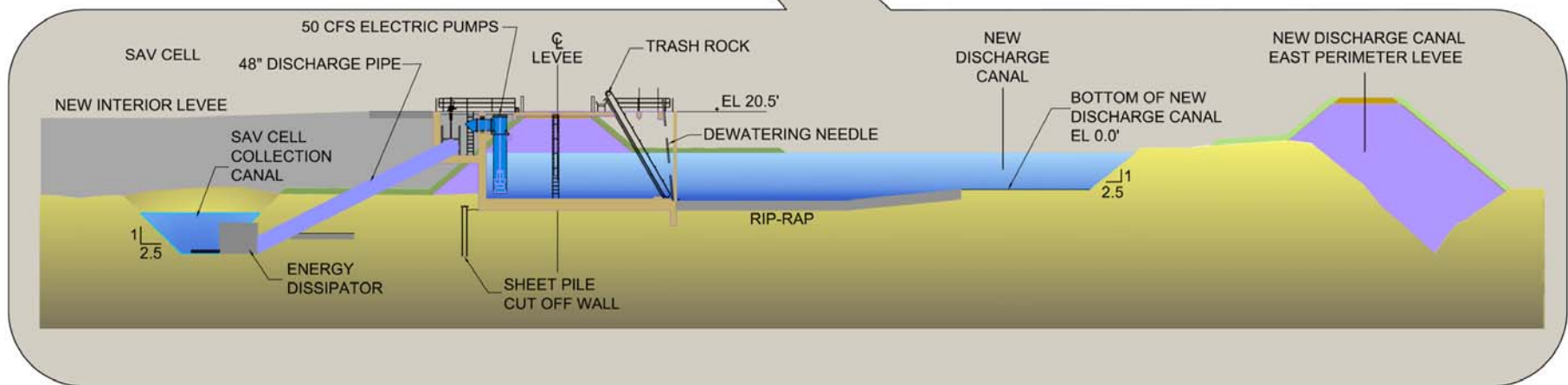
## Control Structures



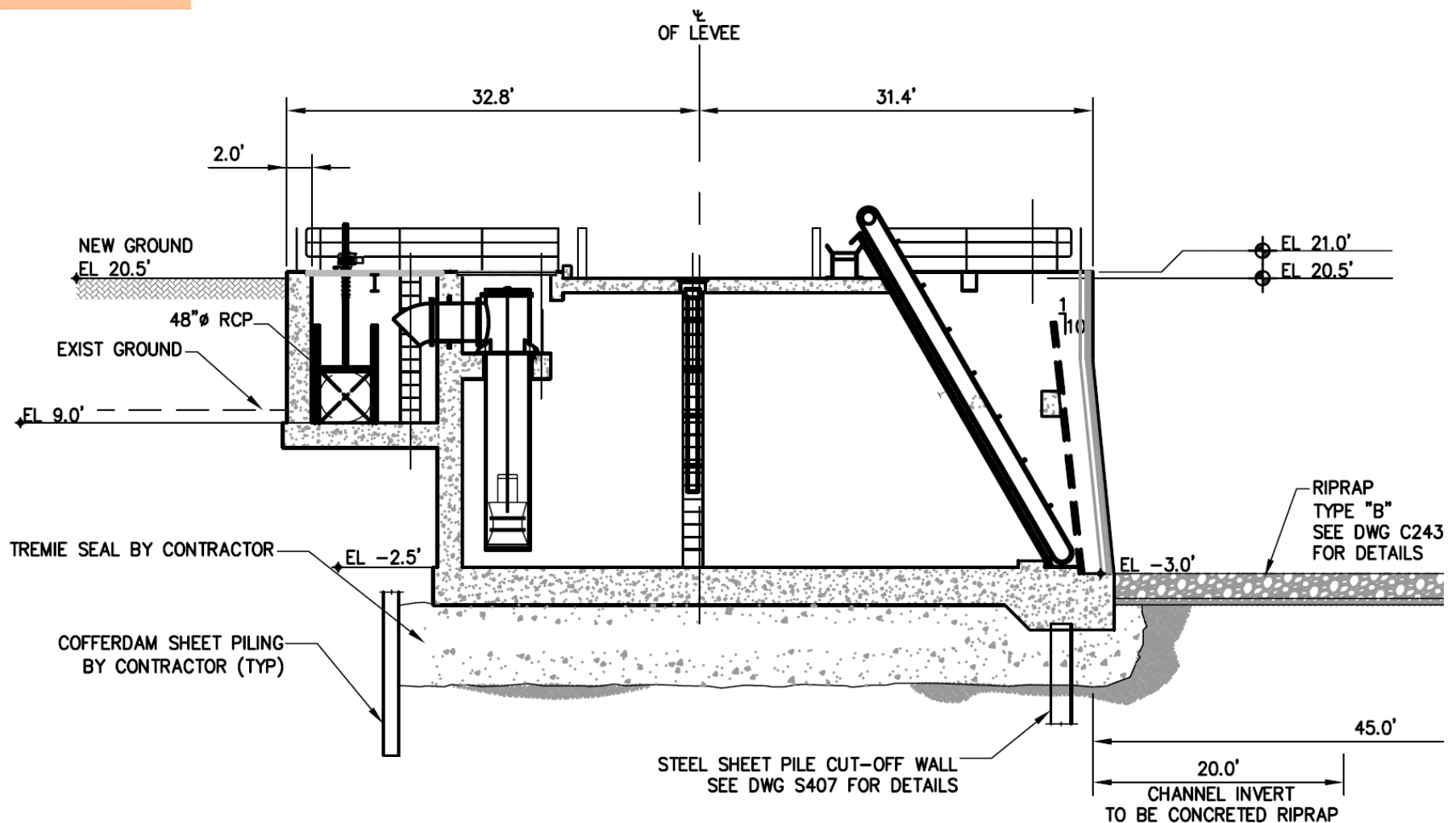
# Hydration Pump Station G-509



- 2 – 50 cfs pumps
- Powered by electric submersible motors
- Design TDH : 11.6 feet
- 50 cfs with 150HP motor
- Suction Bell Intake
- Constant Speed Motors with soft start
- Wetwell discharge with gates
- Emergency Standby Backup Power from Inflow Pump Station generators



# G-509 Pump Station 100 cubic feet /sec





## Underground Electric Distribution Lines



## Stilling Wells and Staff Gauges



## Weed Barriers and Boat Ramps






## Schedule & Engineer's Estimate

## Schedule

- 
- **Bid Issue** **October 23, 2008**
  - **Pre-Bid Meeting** **November 6, 2008**
  - **Bid Opening** **December 4, 2008**
  - **Governing Board** **January 2009**
  - **Construction Start** **February 2009**
  - **Flow Capable** **December 2010**
  - **Final Completion** **May 2011**

## Engineer's Estimate



<b>COMPARTMENT C Buildout</b>	<b>Estimated Current Cost</b>
Compartment C Buildout STA	<b>\$ 85,000,000 - \$95,000,000</b>

Thank You

SFWMD

